ABSTRACT

EFFECT OF EUDRAGIT® S 100 CONCENTRATION AS A MATRIX PROBIOTIC MICROPARTICLE *Lactobacillus casei* ON PHYSICAL CHARACTERISTIC AND PROTECTION

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Microencapsulation using suitable technique and matric was efficient methods to protect probiotic bacteria from extreme condition. It is important that micoencapsulation keeps the probiotics active through the gastrointestinal tract and releases them in their target organ. *Lactobacillus casei* was made into microparticle by spray drying method in 120 °C inlet temperature with three different concentration of Eudragit® S 100 as matrics polymer. Three different formula were named formula I, formula II, and formula III with 0,5; 1; and 1,5 % concentration of Eudragit® S 100. Physical characteristic and protection test were performed in all formula. The result showed that microparticle morphology have spherical shape and smooth surface only in formula II. Moisture content was decreased with increasing Eudragit® S 100 concentration. The highest particle size of microparticle was obtained by formula II. Protection test in all formula was performed in two different conditions to know protection *Lactobacillus casei* from temperature and gastric condition. The result showed that increasing Eudragit® S 100 concentration increase protection microparticle probiotic from temperature. But the highest protection microparticle probiotic from gastric condition was obtained by formula II with significant diffferent with other formula ($p<0,05$).

Keywords: Microencapsulation, spray drying, Eudragit® S 100, probitotic, *Lactobacillus casei*, physical characteristic, protection.